



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

103 Lyon Drive
Grenada, Mississippi 38901

RE: Addendum to Results of May 2016 Air Monitoring at 103 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency to monitor the air inside your home located at 103 Lyon Drive, Grenada, Mississippi. This was part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene, TCE, may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This letter is being written as an addendum to the letter dated July 7, 2016 to supplement the results shared in that letter.

As discussed in the previous letter, multiple technologies were used to conduct the indoor air study in and around your house. The EPA used conventional sampling methods to collect a 24-hour indoor air sample and 30-minute sub-slab air sample via summa canisters. Those results were reported to you in the July 7, 2016 letter. In addition, the EPA used a mobile laboratory Trace Atmospheric Gas Analyzer (TAGA) to monitor the air in each room in your home and the air beneath the foundation slab. The mobile laboratory was used to obtain immediate information about air quality so that appropriate actions, if needed, could be taken and to assist field decisions. In the case of your home, the TAGA results helped to identify the benzene concentrations in the indoor air. The instantaneous TAGA results allowed EPA to further monitor the home for possible sources of the benzene and make appropriate recommendations to ventilate your home.

The July 7, 2016 letter reported the results of the 24-hour conventional samples, and did not include the results of the TAGA air screening. The purpose of this letter is to report the results of the TAGA air screening.

The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are estimated to be from non-detect to 0.24 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and are all below EPA's screening levels. The results represent air collected for one minute in each room. The TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence.

The July letter stated that TCE was not detected in the indoor air of your home. That information was based on the 24-hour air sample collected in the summa canister and analyzed at the EPA laboratory. TCE concentrations in both the mobile laboratory sample and the conventional 24-hour indoor air sample were below EPA's screening level. The EPA considers the 24-hour indoor air sample to best represent daily exposure in a residential home.

EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect another indoor air sample and sub-slab air sample to determine whether ventilating and exchanging the indoor air with the outdoor air in your home has reduced the amount of benzene. The EPA staff will also contact you to discuss this letter and/or any questions you may have about the results and future sampling. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal flourish.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

July 7, 2016

(b) (6)

103 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 103 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 103 Lyon Drive, Grenada, MS. We also appreciate speaking to you both in-person (at your home) on the morning of May 5, 2016 and also during three follow-up telephone calls that were held on Friday, May 13, 2016, Friday, June 24, 2016 and Monday, June 26, 2016 to discuss your results. The purpose of collecting the air samples was to determine whether contaminants are present in air that may be related to Grenada Manufacturing, LLC (the Facility) and to evaluate if any further response actions are necessary to protect human health and the environment. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory. This was part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethylene, TCE, may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is also called "vapor intrusion." For general information about vapor intrusion, a document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

The EPA collected air from inside your home and from beneath the foundation slab (called sub-slab air) of your home on May 4-5, 2016. The EPA screened the air in your home using the TAGA sampling tube and collected a sub-slab air sample in a tedlar bag. The indoor air collected during the screening and the sub-slab air sample were analyzed by instruments within the mobile air monitoring laboratory on the TAGA bus. Also, the indoor air sample and sub-slab air sample were collected from this home using summa canisters. The EPA is writing this letter to you to share the results of this air sampling.

Data Summary

Indoor Air: Although TCE was not detected in indoor air, benzene, ethylbenzene and 1,2-dichloroethane were detected in the indoor air at levels that exceed the EPA's indoor air regional screening levels. Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation. In the case of your home, benzene was detected during the indoor air screening as well as from the indoor air sample collected via

meter ($\mu\text{g}/\text{m}^3$). Ethylbenzene and 1,2-dichloroethane were also detected in indoor air at $2.5 \mu\text{g}/\text{m}^3$ and $2 \mu\text{g}/\text{m}^3$, respectively.

The three chemicals (benzene, ethylbenzene and 1,2-dichloroethane) detected in the indoor air of your home were not found in the air beneath your slab (see Sub-Slab Air results), and therefore are unlikely to be originating from an underground source. It is important to know that these contaminants can be present in and around homes from common household products (glues, paints, art supplies, ink) and gasoline.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts. Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke. Similarly, ethylbenzene is used to make products such as inks, pesticides, and paints. Natural sources of ethylbenzene include coal tar and petroleum.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals, including benzene, ethylbenzene, and 1,2-dichloroethane are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to automobile exhaust. The benzene found inside of your home does not appear to be coming from the outside air.

Conclusion: As we explained before, although we were not able to pinpoint the source of benzene during the investigation, the EPA still suspects that there may be a source of benzene inside your home. The detections of benzene may be related to flooring, glues, cigarette smoke, paint, or other sources in your home. Also, as we shared, based upon our assessment, the benzene in your home is likely not related to the Facility, which the EPA continues to investigate and conduct corrective action. At the briefing in your home and during our follow-up calls, the EPA recommended increasing the flow of air through your house by ventilating your home. Ventilating your home, by opening windows and/or running the attic fan and air conditioner, will reduce the amount of benzene in your home by exchanging the indoor air with the outdoor air.

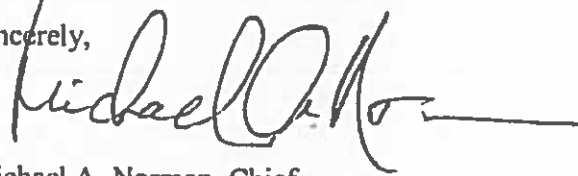
Results Table

The following table is a summary of the results from the air inside your home which includes TCE and the other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results Sample location: 103 Lyon Drive Sample date: 5/4-5/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air* Sample from your home
Trichloroethylene	0.48	Not Detected
Benzene	0.36	57
1,2-dichloroethane	0.11	2.0 (estimated)
Ethylbenzene	1.1	2.5
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold - Indicates value is above the EPA regional screening level. The indoor air was collected over a 24-hour period via summa canister.		

The EPA will contact you to schedule a time to collect another indoor air sample and sub-slab air sample to determine whether ventilating and exchanging the indoor air with the outdoor air in your home has reduced the amount of benzene. The EPA staff will also contact you to discuss this letter and/or any questions you may have about the results and the future sampling. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,



Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

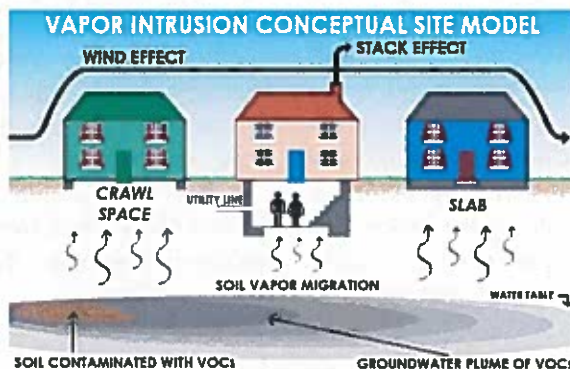
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

**Summary Table of Screening Levels for Chemicals Detected and
Laboratory Data Sheets**

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1231A0516

Lab ID: E162001-52

Station ID: GM123

Matrix: Indoor Air

Date Collected: 5/4/16 13:30

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.9	J, Q-2	ug/m3	0.49 4.9	5/11/16 11/21	5/20/16 3/52	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.1	U	ug/m3	0.31 3.1	5/11/16 11/21	5/20/16 3/52	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.1	U	ug/m3	0.21 2.1	5/11/16 11/21	5/20/16 3/52	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.58	J, Q-2	ug/m3	0.28 2.8	5/11/16 11/21	5/20/16 3/52	EPA TO-15
107-06-2	1,2-Dichloroethane	2.0	J, Q-2	ug/m3	0.29 2.2	5/11/16 11/21	5/20/16 3/52	EPA TO-15
71-43-2	Benzene	57		ug/m3	0.18 1.8	5/11/16 11/21	5/20/16 3/52	EPA TO-15
67-66-3	Chloroform	0.90	J, Q-2	ug/m3	0.27 2.7	5/11/16 11/21	5/20/16 3/52	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	0.28	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/21	5/20/16 3/52	EPA TO-15
100-41-4	Ethyl Benzene	2.5		ug/m3	0.24 2.4	5/11/16 11/21	5/20/16 3/52	EPA TO-15
75-09-2	Methylene Chloride	1.9	U	ug/m3	1.9 1.9	5/11/16 11/21	5/20/16 3/52	EPA TO-15
95-47-6	o-Xylene	1.3	J, Q-2	ug/m3	0.25 2.5	5/11/16 11/21	5/20/16 3/52	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.8	U	ug/m3	0.38 3.8	5/11/16 11/21	5/20/16 3/52	EPA TO-15
108-88-3	Toluene	14		ug/m3	0.21 2.1	5/11/16 11/21	5/20/16 3/52	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.3	U	ug/m3	0.23 2.3	5/11/16 11/21	5/20/16 3/52	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	3.0	U	ug/m3	0.30 3.0	5/11/16 11/21	5/20/16 3/52	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11/21	5/20/16 3/52	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM123SS0516

Lab ID: E162001-53

Station ID: GM123

Matrix: Soil Gas

Date Collected: 5/4/16 12:40

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or-p-)Xylene	3.9	U	ug/m3	0.39 3.9	5/11/16 11:24	5/26/16 5:54	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11:24	5/26/16 5:54	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11:24	5/26/16 5:54	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:24	5/26/16 5:54	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.23 1.8	5/11/16 11:24	5/26/16 5:54	EPA TO-15
71-43-2	Benzene	0.65	J, Q-2, QR-2	ug/m3	0.14 1.4	5/11/16 11:24	5/26/16 5:54	EPA TO-15
67-66-3	Chloroform	0.63	J, Q-2, QR-2	ug/m3	0.21 2.1	5/11/16 11:24	5/26/16 5:54	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11:24	5/26/16 5:54	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11:24	5/26/16 5:54	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11:24	5/26/16 5:54	EPA TO-15
95-47-6	o-Xylene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:24	5/26/16 5:54	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.66	J, Q-2	ug/m3	0.30 3.0	5/11/16 11:24	5/26/16 5:54	EPA TO-15
108-88-3	Toluene	0.42	J, Q-2	ug/m3	0.17 1.7	5/11/16 11:24	5/26/16 5:54	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11:24	5/26/16 5:54	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11:24	5/26/16 5:54	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11:24	5/26/16 5:54	EPA TO-15

Enclosure 3

Agency for Toxic Substances and Disease Registry (ATSDR) Follow-up Information and Additional Resources

Benzene Toxicological Frequently Asked Questions or ToxFAQs for Benzene is attached.

Use the following link to access the document online,
<http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=38&tid=14>.

A link to ATSDR's Medical Management Guidelines for Benzene is provided as a another resource, <http://www.atsdr.cdc.gov/mmg/mmg.asp?id=35&tid=14>.

Additionally, please direct any health questions from your physician to the MS Poison Control Center.

1. Mississippi Poison Control Center/ University of Mississippi Medical Center
https://www.umc.edu/Administration/Outreach_Services/Mississippi_Poison_Control_Center/Patient_Referral_and_Consult_Service.aspx
Dr. Robert Cox
Medical Toxicologist
(601) 984-5577

This fact sheet answers the most frequently asked health questions (FAQs) about benzene. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Benzene is a widely used chemical formed from both natural processes and human activities. Breathing benzene can cause drowsiness, dizziness, and unconsciousness; long-term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia. Benzene has been found in at least 1,000 of the 1,684 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is benzene?

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and other synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

What happens to benzene when it enters the environment?

- Industrial processes are the main source of benzene in the environment.
- Benzene can pass into the air from water and soil.
- It reacts with other chemicals in the air and breaks down within a few days.
- Benzene in the air can attach to rain or snow and be carried back down to the ground.
- It breaks down more slowly in water and soil, and can pass through the soil into underground water.
- Benzene does not build up in plants or animals.

How might I be exposed to benzene?

- Outdoor air contains low levels of benzene from tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions.
- Vapors (or gases) from products that contain benzene, such as glues, paints, furniture wax, and detergents, can also be a source of exposure.
- Air around hazardous waste sites or gas stations will contain higher levels of benzene.
- Working in industries that make or use benzene.

How can benzene affect my health?

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries, but we do not know for certain that benzene caused the effects. It is not known whether benzene will affect fertility in men.

Benzene

CAS # 71-43-2

How likely is benzene to cause cancer?

Long-term exposure to high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia, often referred to as AML. This is a cancer of the blood-forming organs. The Department of Health and Human Services (DHHS) has determined that benzene is a known carcinogen. The International Agency for Research on Cancer (IARC) and the EPA have determined that benzene is carcinogenic to humans.

How can benzene affect children?

Children can be affected by benzene exposure in the same ways as adults. It is not known if children are more susceptible to benzene poisoning than adults.

Benzene can pass from the mother's blood to a fetus. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

How can families reduce the risks of exposure to benzene?

Benzene exposure can be reduced by limiting contact with gasoline and cigarette smoke. Families are encouraged not to smoke in their house, in enclosed environments, or near their children.

Is there a medical test to determine whether I've been exposed to benzene?

Several tests can show if you have been exposed to benzene. There is a test for measuring benzene in the breath; this test must be done shortly after exposure. Benzene can also be measured in the blood; however, since benzene disappears rapidly from the blood, this test is only useful for recent exposures.

In the body, benzene is converted to products called metabolites. Certain metabolites can be measured in the urine. The metabolite 5-phenylmercapturic acid in urine is a sensitive indicator of benzene exposure. However, this test must be done shortly after exposure and is not a reliable indicator of how much benzene you have been exposed to, since the metabolites may be present in urine from other sources.

Has the federal government made recommendations to protect human health?

The EPA has set the maximum permissible level of benzene in drinking water at 5 parts benzene per billion parts of water (5 ppb).

The Occupational Safety and Health Administration (OSHA) has set limits of 1 part benzene per million parts of workplace air (1 ppm) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR) 2007. Toxicological Profile for Benzene (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30333.

Phone: 1-800-232-4636

ToxFAQs™ Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaqs/index.asp>.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

110 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 110 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 110 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results Sample location: 110 Lyon Drive Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	2.7
1,2-Dichloroethane	0.11	0.92 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a “J” flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family’s health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

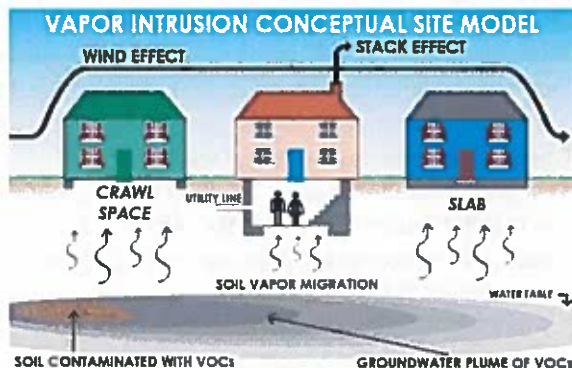
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1071A0516

Lab ID: E162001-10

Station ID: GM107

Matrix: Indoor Air

Date Collected: 5/3/16 12:43

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.5	J, Q-2	ug/m3	0.46 4.6	5/11/16 11:21	5/18/16 18:52	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.9	U	ug/m3	0.29 2.9	5/11/16 11:21	5/18/16 18:52	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11:21	5/18/16 18:52	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.39	J, Q-2	ug/m3	0.26 2.6	5/11/16 11:21	5/18/16 18:52	EPA TO-15
107-06-2	1,2-Dichloroethane	0.92	J, Q-2	ug/m3	0.27 2.0	5/11/16 11:21	5/18/16 18:52	EPA TO-15
71-43-2	Benzene	2.7		ug/m3	0.16 1.6	5/11/16 11:21	5/18/16 18:52	EPA TO-15
67-66-3	Chloroform	1.3	J, Q-2, QR-2	ug/m3	0.25 2.5	5/11/16 11:21	5/18/16 18:52	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:21	5/18/16 18:52	EPA TO-15
100-41-4	Ethyl Benzene	0.58	J, Q-2	ug/m3	0.23 2.3	5/11/16 11:21	5/18/16 18:52	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/18/16 18:52	EPA TO-15
95-47-6	o-Xylene	0.51	J, Q-2	ug/m3	0.23 2.3	5/11/16 11:21	5/18/16 18:52	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.5	U	ug/m3	0.35 3.5	5/11/16 11:21	5/18/16 18:52	EPA TO-15
108-88-3	Toluene	6.7		ug/m3	0.20 2.0	5/11/16 11:21	5/18/16 18:52	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/18/16 18:52	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.8	U	ug/m3	0.28 2.8	5/11/16 11:21	5/18/16 18:52	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/18/16 18:52	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM107SS0516

Lab ID: E162001-12

Station ID: GM107

Matrix: Soil Gas

Date Collected: 5/3/16 12:05

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 1.8	5/11/16 11/24	5/24/16 21/06	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/24/16 21/06	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/24/16 21/06	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.28	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/24	5/24/16 21/06	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/24/16 21/06	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/24/16 21/06	EPA TO-15
67-66-3	Chloroform	0.54	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/24/16 21/06	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/24/16 21/06	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/24/16 21/06	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	0.16 1.4	5/11/16 11/24	5/24/16 21/06	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/24/16 21/06	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/24	5/24/16 21/06	EPA TO-15
108-88-3	Toluene	1.6	U	ug/m3	1.6 1.6	5/11/16 11/24	5/24/16 21/06	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/24/16 21/06	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	1.4	J, Q-2, QR-2	ug/m3	0.23 2.3	5/11/16 11/24	5/24/16 21/06	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/24/16 21/06	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

112 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 112 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 112 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 112 Lyon Drive		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	0.92 (estimated)
1,2-Dichloroethane	0.11	4.0
Notes:		
Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter.		
Bold – Indicates value is above the EPA regional screening level		
The indoor air was collected over a 24-hour period via summa canister.		
Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a horizontal line extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

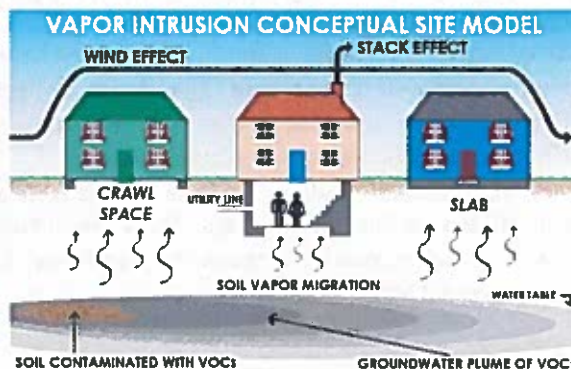
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM108IA0516

Lab ID: E162001-14

Station ID: GM108

Matrix: Indoor Air

Date Collected: 5/4/16 16:27

CAS Number	Analyte	Results	Qualifiers	Units	MDL			
					MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.66	J, Q-2	ug/m3	0.45 4.5	5/11/16 11:21	5/18/16 20:33	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.8	U	ug/m3	0.28 2.8	5/11/16 11:21	5/18/16 20:33	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11:21	5/18/16 20:33	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.26	J, Q-2	ug/m3	0.25 2.5	5/11/16 11:21	5/18/16 20:33	EPA TO-15
107-06-2	1,2-Dichloroethane	4.0		ug/m3	0.26 2.0	5/11/16 11:21	5/18/16 20:33	EPA TO-15
71-43-2	Benzene	0.92	J, Q-2	ug/m3	0.16 1.6	5/11/16 11:21	5/18/16 20:33	EPA TO-15
67-66-3	Chloroform	0.50	J, Q-2, QR-2	ug/m3	0.24 2.4	5/11/16 11:21	5/18/16 20:33	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:21	5/18/16 20:33	EPA TO-15
100-41-4	Ethyl Benzene	0.25	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/18/16 20:33	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/18/16 20:33	EPA TO-15
95-47-6	o-Xylene	0.29	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/18/16 20:33	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.4	U	ug/m3	0.34 3.4	5/11/16 11:21	5/18/16 20:33	EPA TO-15
108-88-3	Toluene	9.5		ug/m3	0.19 1.9	5/11/16 11:21	5/18/16 20:33	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/18/16 20:33	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.7	U	ug/m3	0.27 2.7	5/11/16 11:21	5/18/16 20:33	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/18/16 20:33	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM108SS0516

Lab ID: E162001-16

Station ID: GM108

Matrix: Soil Gas

Date Collected: 5/4/16 15:45

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.9	U	ug/m3	0.39 3.9	5/11/16 11/24	5/24/16 22/47	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11/24	5/24/16 22/47	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/24/16 22/47	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/24/16 22/47	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.23 1.8	5/11/16 11/24	5/24/16 22/47	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/24/16 22/47	EPA TO-15
67-66-3	Chloroform	0.62	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/24/16 22/47	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/24/16 22/47	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/24/16 22/47	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11/24	5/24/16 22/47	EPA TO-15
95-47-6	o-Xylene	0.26	J, Q-2	ug/m3	0.20 2.0	5/11/16 11/24	5/24/16 22/47	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.43	J, Q-2	ug/m3	0.30 3.0	5/11/16 11/24	5/24/16 22/47	EPA TO-15
108-88-3	Toluene	2.1	J, QL-2	ug/m3	0.17 1.7	5/11/16 11/24	5/24/16 22/47	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/24/16 22/47	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/24/16 22/47	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/24/16 22/47	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

114 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 114 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 114 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 114 Lyon Drive		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	3.4
1,2-Dichloroethane	0.11	0.99 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect and your family's health, if needed, could be taken without delay. The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are estimated to be from $0.62 \mu\text{g}/\text{m}^3$ to $1.1 \mu\text{g}/\text{m}^3$. These results are above EPA's screening level but, do not appear to be site

related because TCE was not detected in the sub-slab nor ambient air. The results represent air collected for one minute in each room. The TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence. No TCE was detected in the 24-hour indoor air sample collected via summa canister, as discussed above. The rest of the mobile laboratory data, including indoor air, sub-slab air and outdoor air, are consistent with 24-hour sample described above. EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

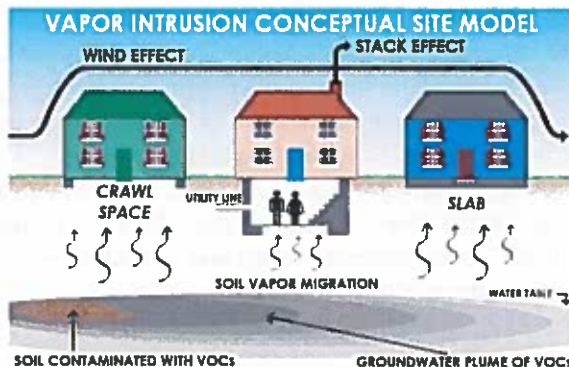
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM109IA0516

Lab ID: E162001-18

Station ID: GM109

Matrix: Indoor Air

Date Collected: 5/3/16 15:35

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.5	J, Q-2	ug/m3	0.51 5.1	5/11/16 11 21	5/18/16 23 05	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.2	U	ug/m3	0.32 3.2	5/11/16 11 21	5/18/16 23 05	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.2	U	ug/m3	0.22 2.2	5/11/16 11 21	5/18/16 23 05	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.38	J, Q-2	ug/m3	0.29 2.9	5/11/16 11 21	5/18/16 23 05	EPA TO-15
107-06-2	1,2-Dichloroethane	0.99	J, Q-2	ug/m3	0.30 2.3	5/11/16 11 21	5/18/16 23 05	EPA TO-15
71-43-2	Benzene	3.4		ug/m3	0.18 1.8	5/11/16 11 21	5/18/16 23 05	EPA TO-15
67-66-3	Chloroform	2.4	J, Q-2, QR-2	ug/m3	0.28 2.8	5/11/16 11 21	5/18/16 23 05	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.3	U	ug/m3	0.23 2.3	5/11/16 11 21	5/18/16 23 05	EPA TO-15
100-41-4	Ethyl Benzene	0.60	J, Q-2	ug/m3	0.25 2.5	5/11/16 11 21	5/18/16 23 05	EPA TO-15
75-09-2	Methylene Chloride	1.9	U	ug/m3	1.9 1.9	5/11/16 11 21	5/18/16 23 05	EPA TO-15
95-47-6	o-Xylene	0.47	J, Q-2	ug/m3	0.26 2.6	5/11/16 11 21	5/18/16 23 05	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.9	U	ug/m3	0.39 3.9	5/11/16 11 21	5/18/16 23 05	EPA TO-15
108-88-3	Toluene	6.2		ug/m3	0.22 2.2	5/11/16 11 21	5/18/16 23 05	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.4	U	ug/m3	0.24 2.4	5/11/16 11 21	5/18/16 23 05	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	3.1	U	ug/m3	0.31 3.1	5/11/16 11 21	5/18/16 23 05	EPA TO-15
75-01-4	Vinyl chloride	1.5	U	ug/m3	0.15 1.5	5/11/16 11 21	5/18/16 23 05	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM109SS0516

Lab ID: E162001-19

Station ID: GM109

Matrix: Soil Gas

Date Collected: 5/3/16 14:33

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.6	J, Q-2	ug/m3	0.38 1.8	5/11/16 11/24	5/25/16 0.27	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 0.27	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 0.27	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	1.5	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 0.27	EPA TO-15
107-06-2	1,2-Dichloroethane	0.48	J, Q-2, QL-2, QR-2	ug/m3	0.22 1.7	5/11/16 11/24	5/25/16 0.27	EPA TO-15
71-43-2	Benzene	3.2	J, QL-2, QR-2	ug/m3	0.14 1.4	5/11/16 11/24	5/25/16 0.27	EPA TO-15
67-66-3	Chloroform	2.3	J, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 0.27	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 0.27	EPA TO-15
100-41-4	Ethyl Benzene	0.70	J, Q-2	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 0.27	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/25/16 0.27	EPA TO-15
95-47-6	o-Xylene	1.0	J, Q-2	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 0.27	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/24	5/25/16 0.27	EPA TO-15
108-88-3	Toluene	4.7	J, QL-2	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 0.27	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 0.27	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/25/16 0.27	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 0.27	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

116 Rockwell Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 116 Rockwell Circle, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 116 Rockwell Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene, 1,2-dichloroethane, and ethylbenzene were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The three chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ethylbenzene is used to make products such as inks, pesticides, and paints. Natural sources of ethylbenzene include coal tar and petroleum.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 116 Rockwell Circle		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.3 (estimated)
1,2-Dichloroethane	0.11	0.83 (estimated)
Ethylbenzene	1.1	2.6
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

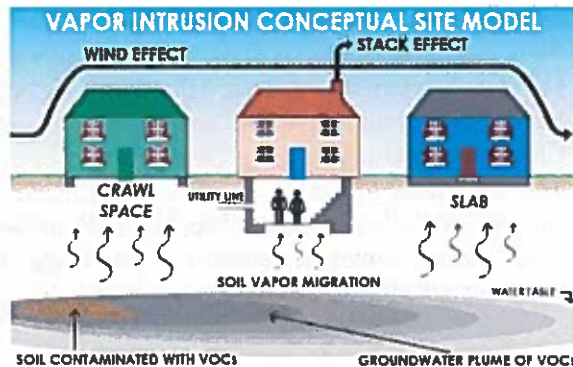
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1101A0516

Lab ID: E162001-23

Station ID: GM110

Matrix: Indoor Air

Date Collected: 5/3/16 9:30

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or-p-)Xylene	8.4		ug/m3	0.45 4.5	5/11/16 11/21	5/18/16 23/56	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.8	U	ug/m3	0.28 2.8	5/11/16 11/21	5/18/16 23/56	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11/21	5/18/16 23/56	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.72	J, Q-2	ug/m3	0.26 2.6	5/11/16 11/21	5/18/16 23/56	EPA TO-15
107-06-2	1,2-Dichloroethane	0.83	J, Q-2	ug/m3	0.26 2.0	5/11/16 11/21	5/18/16 23/56	EPA TO-15
71-43-2	Benzene	1.3	J, Q-2	ug/m3	0.16 1.6	5/11/16 11/21	5/18/16 23/56	EPA TO-15
67-66-3	Chloroform	0.58	J, Q-2, QR-2	ug/m3	0.25 2.5	5/11/16 11/21	5/18/16 23/56	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/21	5/18/16 23/56	EPA TO-15
100-41-4	Ethyl Benzene	2.6		ug/m3	0.22 2.2	5/11/16 11/21	5/18/16 23/56	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11/21	5/18/16 23/56	EPA TO-15
95-47-6	o-Xylene	1.5	J, Q-2	ug/m3	0.23 2.3	5/11/16 11/21	5/18/16 23/56	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.72	J, Q-2	ug/m3	0.35 3.5	5/11/16 11/21	5/18/16 23/56	EPA TO-15
108-88-3	Toluene	5.9		ug/m3	0.19 1.9	5/11/16 11/21	5/18/16 23/56	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11/21	5/18/16 23/56	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.7	U	ug/m3	0.27 2.7	5/11/16 11/21	5/18/16 23/56	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11/21	5/18/16 23/56	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM110SS0516

Lab ID: E162001-24

Station ID: GM110

Matrix: Soil Gas

Date Collected: 5/3/16 8:50

CAS Number	Analyte	Results	Qualifiers	Units	MDL			
					MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 3.8	5/11/16 11/24	5/25/16 1/18	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 1/18	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 1/18	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.71	J, Q-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 1/18	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/25/16 1/18	EPA TO-15
71-43-2	Benzene	0.86	J, Q-2, QL-2, QR-2	ug/m3	0.14 1.4	5/11/16 11/24	5/25/16 1/18	EPA TO-15
67-66-3	Chloroform	0.34	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 1/18	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 1/18	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 1/18	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	0.16 1.4	5/11/16 11/24	5/25/16 1/18	EPA TO-15
95-47-6	o-Xylene	0.22	J, Q-2	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 1/18	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.61	J, Q-2	ug/m3	0.29 2.9	5/11/16 11/24	5/25/16 1/18	EPA TO-15
108-88-3	Toluene	1.0	J, Q-2, QL-2	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 1/18	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 1/18	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/25/16 1/18	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 1/18	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)
118 Rockwell Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 118 Rockwell Circle, Grenada, MS

Dear (b) (6):

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 118 Rockwell Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

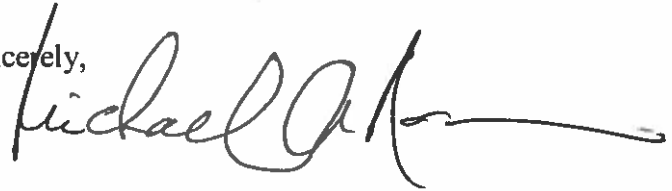
Results		
Sample location: 118 Rockwell Circle		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.7
1,2-Dichloroethane	0.11	0.88 (estimated)
Notes:		
Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter.		
Bold – Indicates value is above the EPA regional screening level		
The indoor air was collected over a 24-hour period via summa canister.		
Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are estimated to be from $0.29 \mu\text{g}/\text{m}^3$ to $0.53 \mu\text{g}/\text{m}^3$. These results are above EPA's screening level but, do not appear to be site

related because TCE was not detected in the sub-slab nor ambient air. The results represent air collected for one minute in each room. The TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence. No TCE was detected in the 24-hour indoor air sample, as discussed above. The rest of the mobile laboratory data, including indoor air, sub-slab air and outdoor air, are consistent with 24-hour sample described above. EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal flourish.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

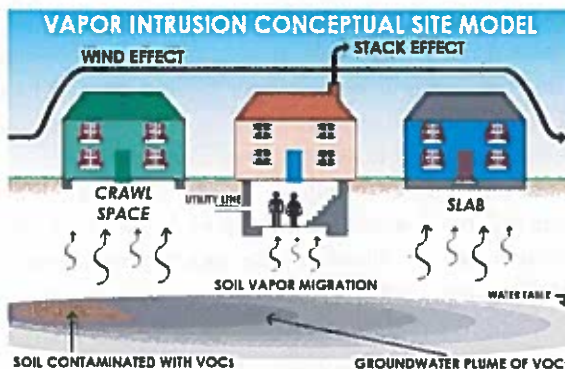
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1111A0516

Lab ID: E162001-25

Station ID: GM111

Matrix: Indoor Air

Date Collected: 5/4/16 10:18

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-71-56	(m- and/or p-)Xylene	1.3	J, Q-2	ug/m3	0.48 4.8	5/11/16 11/21	5/19/16 0.47	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.0	U	ug/m3	0.30 3.0	5/11/16 11/21	5/19/16 0.47	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.0	U	ug/m3	0.20 2.0	5/11/16 11/21	5/19/16 0.47	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.65	J, Q-2	ug/m3	0.27 2.7	5/11/16 11/21	5/19/16 0.47	EPA TO-15
107-06-2	1,2-Dichloroethane	0.88	J, Q-2	ug/m3	0.28 2.1	5/11/16 11/21	5/19/16 0.47	EPA TO-15
71-43-2	Benzene	1.7		ug/m3	0.17 1.7	5/11/16 11/21	5/19/16 0.47	EPA TO-15
67-66-3	Chloroform	1.1	J, Q-2, QR-2	ug/m3	0.26 2.6	5/11/16 11/21	5/19/16 0.47	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11/21	5/19/16 0.47	EPA TO-15
100-41-4	Ethyl Benzene	0.46	J, Q-2	ug/m3	0.24 2.4	5/11/16 11/21	5/19/16 0.47	EPA TO-15
75-09-2	Methylene Chloride	1.8	U	ug/m3	1.8 1.8	5/11/16 11/21	5/19/16 0.47	EPA TO-15
95-47-6	o-Xylene	0.55	J, Q-2	ug/m3	0.24 2.4	5/11/16 11/21	5/19/16 0.47	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.6	U	ug/m3	0.36 3.6	5/11/16 11/21	5/19/16 0.47	EPA TO-15
108-88-3	Toluene	4.4		ug/m3	0.20 2.0	5/11/16 11/21	5/19/16 0.47	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/21	5/19/16 0.47	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/21	5/19/16 0.47	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11/21	5/19/16 0.47	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM111SS0516

Lab ID: E162001-26

Station ID: GM111

Matrix: Soil Gas

Date Collected: 5/4/16 9:35

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 3.8	5/11/16 11/24	5/25/16 2/08	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 2/08	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 2/08	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 2/08	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/25/16 2/08	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/25/16 2/08	EPA TO-15
67-66-3	Chloroform	0.85	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 2/08	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 2/08	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 2/08	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	0.16 1.4	5/11/16 11/24	5/25/16 2/08	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 2/08	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/24	5/25/16 2/08	EPA TO-15
108-88-3	Toluene	0.40	J, Q-2, QL-2	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 2/08	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 2/08	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/25/16 2/08	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 2/08	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

120 Rockwell Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 120 Rockwell Circle, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 120 Rockwell Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 120 Rockwell Circle		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.3 (estimated)
1,2-Dichloroethane	0.11	0.66 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal line.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

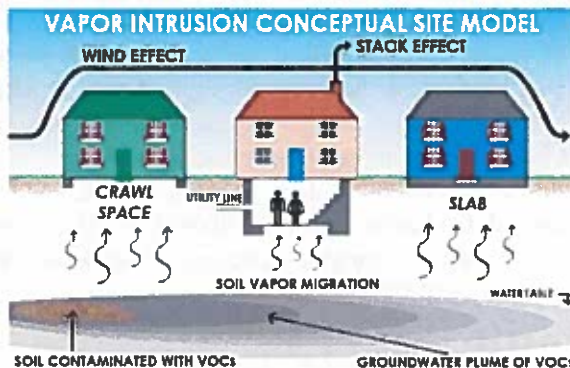
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GMI121A0516

Lab ID: E162001-27

Station ID: GMI112

Matrix: Indoor Air

Date Collected: 5/3/16 15:47

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.63	J, Q-2	ug/m3	0.50 5.0	5/11/16 11 21	5/19/16 1 37	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.1	U	ug/m3	0.31 3.1	5/11/16 11 21	5/19/16 1 37	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.1	U	ug/m3	0.21 2.1	5/11/16 11 21	5/19/16 1 37	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.30	J, Q-2	ug/m3	0.28 2.8	5/11/16 11 21	5/19/16 1 37	EPA TO-15
107-06-2	1,2-Dichloroethane	0.66	J, Q-2	ug/m3	0.29 2.2	5/11/16 11 21	5/19/16 1 37	EPA TO-15
71-43-2	Benzene	1.3	J, Q-2	ug/m3	0.18 1.8	5/11/16 11 21	5/19/16 1 37	EPA TO-15
67-66-3	Chloroform	2.2	J, Q-2, QR-2	ug/m3	0.27 2.7	5/11/16 11 21	5/19/16 1 37	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11 21	5/19/16 1 37	EPA TO-15
100-41-4	Ethyl Benzene	0.26	J, Q-2	ug/m3	0.25 2.5	5/11/16 11 21	5/19/16 1 37	EPA TO-15
75-09-2	Methylene Chloride	1.4	J, Q-2	ug/m3	0.21 1.9	5/11/16 11 21	5/19/16 1 37	EPA TO-15
95-47-6	o-Xylene	0.26	J, Q-2	ug/m3	0.25 2.5	5/11/16 11 21	5/19/16 1 37	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.8	U	ug/m3	0.38 3.8	5/11/16 11 21	5/19/16 1 37	EPA TO-15
108-88-3	Toluene	2.6		ug/m3	0.21 2.1	5/11/16 11 21	5/19/16 1 37	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.3	U	ug/m3	0.23 2.3	5/11/16 11 21	5/19/16 1 37	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	3.0	U	ug/m3	0.30 3.0	5/11/16 11 21	5/19/16 1 37	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11 21	5/19/16 1 37	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM112SS0516

Lab ID: E162001-28

Station ID: GM112

Matrix: Soil Gas

Date Collected: 5/3/16 15:10

CAS Number	Analyte	Results	Qualifiers	Units	MDL			
					MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.9	U	ug/m3	0.39 1.9	5/11/16 11/24	5/25/16 2/59	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 2/59	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 2/59	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 2/59	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/25/16 2/59	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/25/16 2/59	EPA TO-15
67-66-3	Chloroform	0.21	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 2/59	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 2/59	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 2/59	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11/24	5/25/16 2/59	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 2/59	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.76	J, Q-2	ug/m3	0.30 3.0	5/11/16 11/24	5/25/16 2/59	EPA TO-15
108-88-3	Toluene	1.7	U	ug/m3	1.7 1.7	5/11/16 11/24	5/25/16 2/59	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 2/59	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 2/59	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 2/59	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

124 Rockwell Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 124 Rockwell Circle, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 124 Rockwell Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 124 Rockwell Circle		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	2.1
1,2-Dichloroethane	0.11	0.44 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a “J” flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family’s health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal flourish.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

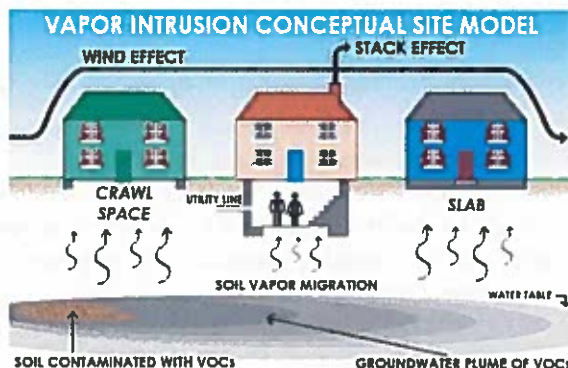
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM114IA0516

Lab ID: E162001-31

Station ID: GM114

Matrix: Indoor Air

Date Collected: 5/3/16 10:54

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.66	J, Q-2	ug/m3	0.48 4.8	5/11/16 11 21	5/19/16 3 19	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.0	U	ug/m3	0.30 3.0	5/11/16 11 21	5/19/16 3 19	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.0	U	ug/m3	0.20 2.0	5/11/16 11 21	5/19/16 3 19	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.7	U	ug/m3	0.27 2.7	5/11/16 11 21	5/19/16 3 19	EPA TO-15
107-06-2	1,2-Dichloroethane	0.44	J, Q-2	ug/m3	0.28 2.1	5/11/16 11 21	5/19/16 3 19	EPA TO-15
71-43-2	Benzene	2.1		ug/m3	0.17 1.7	5/11/16 11 21	5/19/16 3 19	EPA TO-15
67-66-3	Chloroform	0.72	J, Q-2, QR-2	ug/m3	0.26 2.6	5/11/16 11 21	5/19/16 3 19	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11 21	5/19/16 3 19	EPA TO-15
100-41-4	Ethyl Benzene	0.62	J, Q-2	ug/m3	0.24 2.4	5/11/16 11 21	5/19/16 3 19	EPA TO-15
75-09-2	Methylene Chloride	1.8	U	ug/m3	1.8 1.8	5/11/16 11 21	5/19/16 3 19	EPA TO-15
95-47-6	o-Xylene	0.36	J, Q-2	ug/m3	0.24 2.4	5/11/16 11 21	5/19/16 3 19	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.6	U	ug/m3	0.36 3.6	5/11/16 11 21	5/19/16 3 19	EPA TO-15
108-88-3	Toluene	3.0		ug/m3	0.20 2.0	5/11/16 11 21	5/19/16 3 19	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11 21	5/19/16 3 19	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11 21	5/19/16 3 19	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11 21	5/19/16 3 19	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM114SS0516

Lab ID: E162001-32

Station ID: GM114

Matrix: Soil Gas

Date Collected: 5/4/16 10:13

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.9	U	ug/m3	0.39 1.9	5/11/16 11/24	5/25/16 5/30	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 5/30	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 5/30	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.41	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 5/30	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/25/16 5/30	EPA TO-15
71-43-2	Benzene	0.47	J, Q-2, QL-2, QR-2	ug/m3	0.14 1.4	5/11/16 11/24	5/25/16 5/30	EPA TO-15
67-66-3	Chloroform	0.62	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 5/30	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 5/30	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 5/30	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11/24	5/25/16 5/30	EPA TO-15
95-47-6	o-Xylene	0.19	J, Q-2	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 5/30	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.38	J, Q-2	ug/m3	0.30 3.0	5/11/16 11/24	5/25/16 5/30	EPA TO-15
108-88-3	Toluene	0.42	J, Q-2, QL-2	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 5/30	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 5/30	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 5/30	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 5/30	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

208 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 208 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 208 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

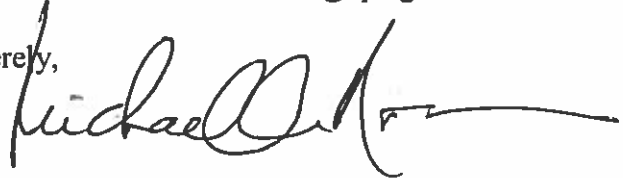
The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results Sample location: 208 Lyon Drive Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.0 (estimated)
1,2 Dichloroethane	0.11	0.32 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

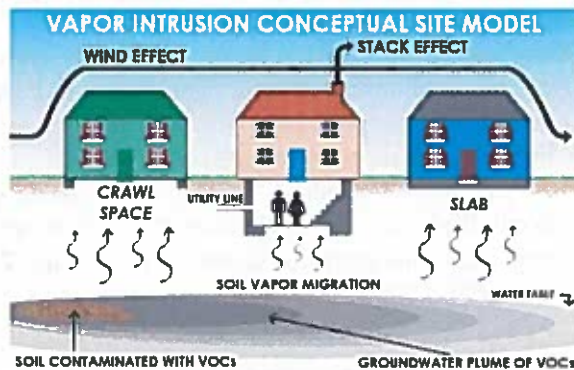
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1161A0516

Lab ID: E162001-35

Station ID: GM116

Matrix: Indoor Air

Date Collected: 5/4/16 18:48

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	2.4	J, Q-2	ug/m3	0.45 4.5	5/11/16 11:21	5/19/16 5:01	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.8	U	ug/m3	0.28 2.8	5/11/16 11:21	5/19/16 5:01	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11:21	5/19/16 5:01	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	1.0	J, Q-2	ug/m3	0.25 2.5	5/11/16 11:21	5/19/16 5:01	EPA TO-15
107-06-2	1,2-Dichloroethane	0.32	J, Q-2	ug/m3	0.26 2.6	5/11/16 11:21	5/19/16 5:01	EPA TO-15
71-43-2	Benzene	1.0	J, Q-2	ug/m3	0.16 1.6	5/11/16 11:21	5/19/16 5:01	EPA TO-15
67-66-3	Chloroform	1.3	J, Q-2, QR-2	ug/m3	0.24 2.4	5/11/16 11:21	5/19/16 5:01	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:21	5/19/16 5:01	EPA TO-15
100-41-4	Ethyl Benzene	0.75	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 5:01	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/19/16 5:01	EPA TO-15
95-47-6	o-Xylene	0.88	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 5:01	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.4	U	ug/m3	0.34 3.4	5/11/16 11:21	5/19/16 5:01	EPA TO-15
108-88-3	Toluene	7.8		ug/m3	0.19 1.9	5/11/16 11:21	5/19/16 5:01	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 5:01	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.7	U	ug/m3	0.27 2.7	5/11/16 11:21	5/19/16 5:01	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/19/16 5:01	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM116SS0516

Lab ID: E162001-36

Station ID: GM116

Matrix: Soil Gas

Date Collected: 5/4/16 18:08

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	4.1	U	ug/m3	0.41 4.1	5/11/16 11/24	5/25/16 7/11	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11/24	5/25/16 7/11	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 7/11	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/25/16 7/11	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.24 1.8	5/11/16 11/24	5/25/16 7/11	EPA TO-15
71-43-2	Benzene	0.52	J, QR-2, Q-2, QL-2	ug/m3	0.15 1.5	5/11/16 11/24	5/25/16 7/11	EPA TO-15
67-66-3	Chloroform	0.64	J, Q-2, QL-2, QR-2	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 7/11	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 7/11	EPA TO-15
100-41-4	Ethyl Benzene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/24	5/25/16 7/11	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	1.5 1.5	5/11/16 11/24	5/25/16 7/11	EPA TO-15
95-47-6	o-Xylene	0.20	J, Q-2	ug/m3	0.20 2.0	5/11/16 11/24	5/25/16 7/11	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.87	J, Q-2	ug/m3	0.31 3.1	5/11/16 11/24	5/25/16 7/11	EPA TO-15
108-88-3	Toluene	0.64	J, Q-2, QL-2	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 7/11	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 7/11	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.5	U	ug/m3	0.25 2.5	5/11/16 11/24	5/25/16 7/11	EPA TO-15
75-01-4	Vinyl chloride	1.2	U	ug/m3	0.12 1.2	5/11/16 11/24	5/25/16 7/11	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

210 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 210 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 210 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results Sample location: 210 Lyon Drive Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.2 (estimated)
1,2-Dichloroethane	0.11	2.9
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a “J” flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family’s health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

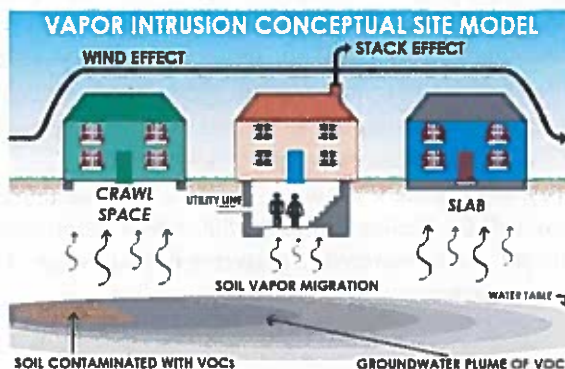
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1171A0516

Lab ID: E162001-37

Station ID: GM117

Matrix: Indoor Air

Date Collected: 5/3/16 16:48

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.98	J, Q-2	ug/m3	0.48 4.8	5/11/16 11:21	5/19/16 21:49	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.0	U	ug/m3	0.30 3.0	5/11/16 11:21	5/19/16 21:49	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.0	U	ug/m3	0.20 2.0	5/11/16 11:21	5/19/16 21:49	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.53	J, Q-2	ug/m3	0.27 2.7	5/11/16 11:21	5/19/16 21:49	EPA TO-15
107-06-2	1,2-Dichloroethane	2.9		ug/m3	0.28 2.1	5/11/16 11:21	5/19/16 21:49	EPA TO-15
71-43-2	Benzene	1.2	J, Q-2	ug/m3	0.17 1.7	5/11/16 11:21	5/19/16 21:49	EPA TO-15
67-66-3	Chloroform	0.39	J, Q-2	ug/m3	0.26 2.6	5/11/16 11:21	5/19/16 21:49	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 21:49	EPA TO-15
100-41-4	Ethyl Benzene	0.41	J, Q-2	ug/m3	0.24 2.4	5/11/16 11:21	5/19/16 21:49	EPA TO-15
75-09-2	Methylene Chloride	1.8	U	ug/m3	1.8 1.8	5/11/16 11:21	5/19/16 21:49	EPA TO-15
95-47-6	o-Xylene	0.48	J, Q-2	ug/m3	0.24 2.4	5/11/16 11:21	5/19/16 21:49	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.6	U	ug/m3	0.36 3.6	5/11/16 11:21	5/19/16 21:49	EPA TO-15
108-88-3	Toluene	4.3		ug/m3	0.20 2.0	5/11/16 11:21	5/19/16 21:49	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 21:49	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11:21	5/19/16 21:49	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11:21	5/19/16 21:49	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM117SS0516

Lab ID: E162001-38

Station ID: GM117

Matrix: Soil Gas

Date Collected: 5/3/16 16:10

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 3.8	5/11/16 11/24	5/26/16 0.01	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	2.4 2.4	5/11/16 11/24	5/26/16 0.01	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/26/16 0.01	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.63	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/24	5/26/16 0.01	EPA TO-15
107-06-2	1,2-Dichloroethane	0.52	J, Q-2, QR-2	ug/m3	0.22 1.7	5/11/16 11/24	5/26/16 0.01	EPA TO-15
71-43-2	Benzene	0.79	J, Q-2, QR-2	ug/m3	0.14 1.4	5/11/16 11/24	5/26/16 0.01	EPA TO-15
67-66-3	Chloroform	0.67	J, Q-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/26/16 0.01	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/26/16 0.01	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 0.01	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/26/16 0.01	EPA TO-15
95-47-6	o-Xylene	0.23	J, Q-2	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 0.01	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.61	J, Q-2	ug/m3	0.29 2.9	5/11/16 11/24	5/26/16 0.01	EPA TO-15
108-88-3	Toluene	1.6		ug/m3	0.16 1.6	5/11/16 11/24	5/26/16 0.01	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/26/16 0.01	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/26/16 0.01	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/26/16 0.01	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

122 Rockwell Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 122 Rockwell Circle, Grenada, MS

Dear (b) (6):

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 122 Rockwell Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 122 Rockwell Circle		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	0.67 (estimated)
1,2-Dichloroethane	0.11	1.6 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are from $0.62 \mu\text{g}/\text{m}^3$ (estimated) to $1.3 \mu\text{g}/\text{m}^3$. These results are above EPA's screening level but, do not appear to be

site related because TCE was not detected in the sub-slab nor ambient air. The results represent air collected for one minute in each room. Some of the TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence. No TCE was detected in the 24-hour indoor air sample, as discussed above. The rest of the mobile laboratory data, including indoor air, sub-slab air and outdoor air, are consistent with 24-hour sample described above. EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

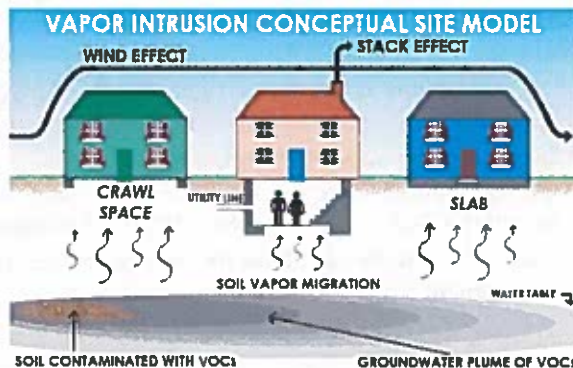
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region 4 Science and Ecosystem Support Division
 980 College Station Road, Athens, Georgia 30605-2700
 D.A.R.T. Id: 16-0152
 Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1131A0516

Lab ID: E162001-29

Station ID: GM113

Matrix: Indoor Air

Date Collected: 5/4/16 9:22

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.68	J, Q-2	ug/m3	0.44 4.4	5/11/16 11:21	5/19/16 2:28	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.8	U	ug/m3	0.28 2.8	5/11/16 11:21	5/19/16 2:28	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11:21	5/19/16 2:28	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.35	J, Q-2	ug/m3	0.25 2.5	5/11/16 11:21	5/19/16 2:28	EPA TO-15
107-06-2	1,2-Dichloroethane	1.6	J, Q-2	ug/m3	0.26 2.0	5/11/16 11:21	5/19/16 2:28	EPA TO-15
71-43-2	Benzene	0.67	J, Q-2	ug/m3	0.16 1.6	5/11/16 11:21	5/19/16 2:28	EPA TO-15
67-66-3	Chloroform	0.69	J, Q-2, QR-2	ug/m3	0.24 2.4	5/11/16 11:21	5/19/16 2:28	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:21	5/19/16 2:28	EPA TO-15
100-41-4	Ethyl Benzene	0.32	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 2:28	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/19/16 2:28	EPA TO-15
95-47-6	o-Xylene	0.28	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 2:28	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.4	U	ug/m3	0.34 3.4	5/11/16 11:21	5/19/16 2:28	EPA TO-15
108-88-3	Toluene	13		ug/m3	0.19 1.9	5/11/16 11:21	5/19/16 2:28	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 2:28	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.7	U	ug/m3	0.27 2.7	5/11/16 11:21	5/19/16 2:28	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/19/16 2:28	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM113SS0516

Lab ID: **E162001-30**

Station ID: **GM113**

Matrix: Soil Gas

Date Collected: 5/4/16 8:43

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.1	J, Q-2	ug/m3	0.41 4.1	5/11/16 11/24	5/25/16 3/49	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.6	U	ug/m3	0.26 2.6	5/11/16 11/24	5/25/16 3/49	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 3/49	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.88	J, Q-2	ug/m3	0.23 2.3	5/11/16 11/24	5/25/16 3/49	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.24 1.8	5/11/16 11/24	5/25/16 3/49	EPA TO-15
71-43-2	Benzene	0.77	J, Q-2, QL-2, QR-2	ug/m3	0.15 1.5	5/11/16 11/24	5/25/16 3/49	EPA TO-15
67-66-3	Chloroform	8.8	QL-2, QR-2	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 3/49	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 3/49	EPA TO-15
100-41-4	Ethyl Benzene	0.65	J, Q-2	ug/m3	0.20 2.0	5/11/16 11/24	5/25/16 3/49	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.17 1.5	5/11/16 11/24	5/25/16 3/49	EPA TO-15
95-47-6	o-Xylene	1.2	J, Q-2	ug/m3	0.20 2.0	5/11/16 11/24	5/25/16 3/49	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	1.7	J, Q-2	ug/m3	0.31 3.1	5/11/16 11/24	5/25/16 3/49	EPA TO-15
108-88-3	Toluene	3.5	J, QL-2	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 3/49	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 3/49	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	0.93	J, Q-2, QR-2	ug/m3	0.25 2.5	5/11/16 11/24	5/25/16 3/49	EPA TO-15
75-01-4	Vinyl chloride	1.2	U	ug/m3	0.12 1.2	5/11/16 11/24	5/25/16 3/49	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

212 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 212 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 212 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 212 Lyon Drive		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.9
1,2-Dichloroethane	0.11	2.7
Notes:		
Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter.		
Bold – Indicates value is above the EPA regional screening level		
The indoor air was collected over a 24-hour period via summa canister.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate needed, could be taken without delay. The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are estimated to be from 0.22 $\mu\text{g}/\text{m}^3$ to 0.33 $\mu\text{g}/\text{m}^3$ and are all below EPA’s screening levels. The results represent air collected for one minute in each room. The TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence. No TCE was detected in the 24-hour indoor air sample, as discussed above. TCE concentrations in both the mobile laboratory sample

indoor air sample, as discussed above. TCE concentrations in both the mobile laboratory sample and the conventional 24-hour indoor air sample were below EPA's screening level. EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a horizontal line.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

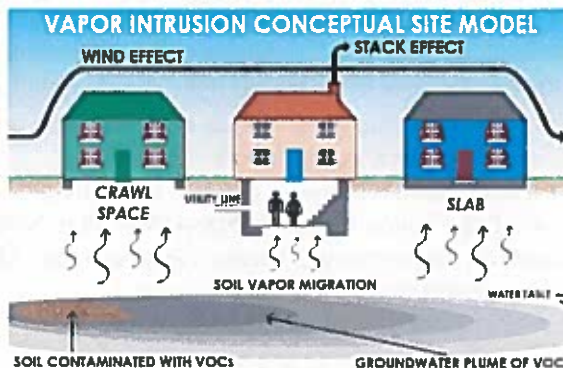
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM118IA0516

Lab ID: E162001-39

Station ID: GM118

Matrix: Indoor Air

Date Collected: 5/4/16 12:06

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	2.4	J, Q-2	ug/m3	0.46 4.6	5/11/16 11:21	5/19/16 22:40	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.9	U	ug/m3	0.29 2.9	5/11/16 11:21	5/19/16 22:40	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.9	U	ug/m3	0.19 1.9	5/11/16 11:21	5/19/16 22:40	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	1.4	J, Q-2	ug/m3	0.26 2.6	5/11/16 11:21	5/19/16 22:40	EPA TO-15
107-06-2	1,2-Dichloroethane	2.7		ug/m3	0.27 2.1	5/11/16 11:21	5/19/16 22:40	EPA TO-15
71-43-2	Benzene	1.9		ug/m3	0.17 1.7	5/11/16 11:21	5/19/16 22:40	EPA TO-15
67-66-3	Chloroform	4.7		ug/m3	0.25 2.5	5/11/16 11:21	5/19/16 22:40	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	0.21	J, Q-2	ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 22:40	EPA TO-15
100-41-4	Ethyl Benzene	0.75	J, Q-2	ug/m3	0.23 2.3	5/11/16 11:21	5/19/16 22:40	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/19/16 22:40	EPA TO-15
95-47-6	o-Xylene	0.96	J, Q-2	ug/m3	0.23 2.3	5/11/16 11:21	5/19/16 22:40	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.5	U	ug/m3	0.35 3.5	5/11/16 11:21	5/19/16 22:40	EPA TO-15
108-88-3	Toluene	7.1		ug/m3	0.20 2.0	5/11/16 11:21	5/19/16 22:40	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 22:40	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.8	U	ug/m3	0.28 2.8	5/11/16 11:21	5/19/16 22:40	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/19/16 22:40	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM118SS0516

Lab ID: E162001-40

Station ID: GM118

Matrix: Soil Gas

Date Collected: 5/4/16 11:07

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 1.8	5/11/16 11/24	5/26/16 0.52	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/26/16 0.52	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/26/16 0.52	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/26/16 0.52	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/26/16 0.52	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/26/16 0.52	EPA TO-15
67-66-3	Chloroform	0.81	J, Q-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/26/16 0.52	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/26/16 0.52	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 0.52	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11/24	5/26/16 0.52	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 0.52	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/24	5/26/16 0.52	EPA TO-15
108-88-3	Toluene	1.7	U	ug/m3	1.7 1.7	5/11/16 11/24	5/26/16 0.52	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/26/16 0.52	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/26/16 0.52	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/26/16 0.52	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

155 Tallahoma Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 155 Tallahoma Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 155 Tallahoma Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene, 1,2-dichloroethane, ethylbenzene, and 1,2,4-trimethylbenzene were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The four chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. **It is important to know that** these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ethylbenzene is used to make products such as inks, pesticides, and paints. Natural sources of ethylbenzene include coal tar and petroleum. 1,2,4-trimethylbenzene is also used to make products like dyes, resins, and gasoline.

Natural sources of 1,2,4-trimethylbenzene include coal tar and petroleum crude oil.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products outside (in outdoor sheds or utility rooms) such as items mentioned above will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 155 Tallahoma Drive		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	4.0
1,2-Dichloroethane	0.11	3.7
Ethylbenzene	1.1	6.8
1,2,4-Trimethylbenzene	7.3	9.2
Notes:		
Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter.		
Bold – Indicates value is above the EPA regional screening level		
The indoor air was collected over a 24-hour period via summa canister.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a horizontal line extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

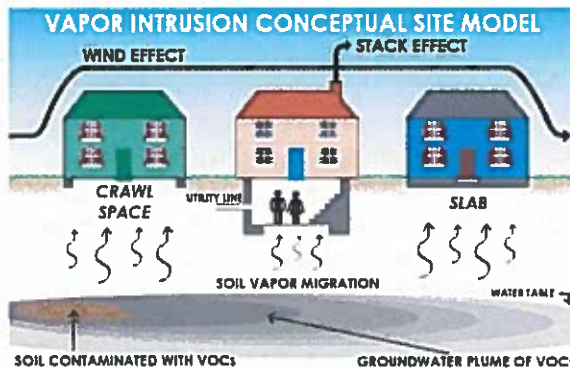
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM119IA0516

Lab ID: E162001-41

Station ID: GM119

Matrix: Indoor Air

Date Collected: 5/4/16 17:55

<i>GAS</i> Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	22		ug/m3	0.46 4.6	5/11/16 11 21	5/19/16 23 32	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.9	U	ug/m3	2.9 2.9	5/11/16 11 21	5/19/16 23 32	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.0	U	ug/m3	0.20 2.0	5/11/16 11 21	5/19/16 23 32	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	9.2		ug/m3	0.26 2.6	5/11/16 11 21	5/19/16 23 32	EPA TO-15
107-06-2	1,2-Dichloroethane	3.7		ug/m3	0.27 2.1	5/11/16 11 21	5/19/16 23 32	EPA TO-15
71-43-2	Benzene	4.0		ug/m3	0.17 1.7	5/11/16 11 21	5/19/16 23 32	EPA TO-15
67-66-3	Chloroform	1.3	J, Q-2	ug/m3	0.25 2.5	5/11/16 11 21	5/19/16 23 32	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11 21	5/19/16 23 32	EPA TO-15
100-41-4	Ethyl Benzene	6.8		ug/m3	0.23 2.3	5/11/16 11 21	5/19/16 23 32	EPA TO-15
75-09-2	Methylene Chloride	1.8	U	ug/m3	1.8 1.8	5/11/16 11 21	5/19/16 23 32	EPA TO-15
95-47-6	o-Xylene	8.6		ug/m3	0.23 2.3	5/11/16 11 21	5/19/16 23 32	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.6	U	ug/m3	0.36 3.6	5/11/16 11 21	5/19/16 23 32	EPA TO-15
108-88-3	Toluene	53		ug/m3	0.20 2.0	5/11/16 11 21	5/19/16 23 32	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11 21	5/19/16 23 32	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.8	U	ug/m3	0.28 2.8	5/11/16 11 21	5/19/16 23 32	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11 21	5/19/16 23 32	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM119SS0516

Lab ID: E162001-42

Station ID: GM119

Matrix: Soil Gas

Date Collected: 5/4/16 17:07

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	4.0	U	ug/m3	0.40 4.0	5/11/16 11:24	5/26/16 1:42	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11:24	5/26/16 1:42	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11:24	5/26/16 1:42	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:24	5/26/16 1:42	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.23 1.8	5/11/16 11:24	5/26/16 1:42	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11:24	5/26/16 1:42	EPA TO-15
67-66-3	Chloroform	0.56	J, Q-2, QR-2	ug/m3	0.21 2.1	5/11/16 11:24	5/26/16 1:42	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11:24	5/26/16 1:42	EPA TO-15
100-41-4	Ethyl Benzene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:24	5/26/16 1:42	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.16 1.5	5/11/16 11:24	5/26/16 1:42	EPA TO-15
95-47-6	o-Xylene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:24	5/26/16 1:42	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.41	J, Q-2	ug/m3	0.30 3.0	5/11/16 11:24	5/26/16 1:42	EPA TO-15
108-88-3	Toluene	1.7	U	ug/m3	1.7 1.7	5/11/16 11:24	5/26/16 1:42	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.9	U	ug/m3	0.19 1.9	5/11/16 11:24	5/26/16 1:42	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11:24	5/26/16 1:42	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11:24	5/26/16 1:42	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

126 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 126 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 126 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene was detected in the indoor air** at a level that exceeds the EPA's indoor air regional screening level. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** Benzene was detected in your indoor air, but was not found in the air beneath your foundation slab, and is therefore, unlikely to be originating from underground sources. It is important to know that benzene can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results Sample location: 126 Lyon Drive Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	0.70 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a “J” flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any

questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal line extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

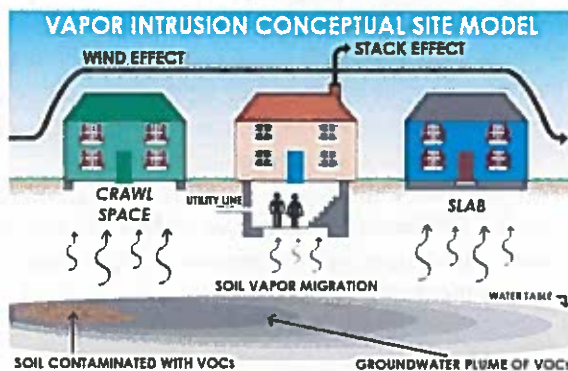
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1151A0516

Lab ID: E162001-33

Station ID: GM115

Matrix: Indoor Air

Date Collected: 5/3/16 11:40

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.50	J, Q-2	ug/m3	0.50 4.0	5/11/16 11:21	5/19/16 4:10	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.1	U	ug/m3	0.31 3.1	5/11/16 11:21	5/19/16 4:10	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 4:10	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.42	J, Q-2	ug/m3	0.28 2.8	5/11/16 11:21	5/19/16 4:10	EPA TO-15
107-06-2	1,2-Dichloroethane	2.2	U	ug/m3	0.29 2.2	5/11/16 11:21	5/19/16 4:10	EPA TO-15
71-43-2	Benzene	0.70	J, Q-2	ug/m3	0.18 1.8	5/11/16 11:21	5/19/16 4:10	EPA TO-15
67-66-3	Chloroform	0.34	J, Q-2, QR-2	ug/m3	0.27 2.7	5/11/16 11:21	5/19/16 4:10	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:21	5/19/16 4:10	EPA TO-15
100-41-4	Ethyl Benzene	2.5	U	ug/m3	0.25 2.5	5/11/16 11:21	5/19/16 4:10	EPA TO-15
75-09-2	Methylene Chloride	1.9	U	ug/m3	1.9 1.9	5/11/16 11:21	5/19/16 4:10	EPA TO-15
95-47-6	o-Xylene	2.5	U	ug/m3	0.25 2.5	5/11/16 11:21	5/19/16 4:10	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.8	U	ug/m3	0.38 3.8	5/11/16 11:21	5/19/16 4:10	EPA TO-15
108-88-3	Toluene	2.9		ug/m3	0.21 2.1	5/11/16 11:21	5/19/16 4:10	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.3	U	ug/m3	0.23 2.3	5/11/16 11:21	5/19/16 4:10	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	3.0	U	ug/m3	0.30 3.0	5/11/16 11:21	5/19/16 4:10	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11:21	5/19/16 4:10	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM115SS0516

Lab ID: E162001-34

Station ID: GM115

Matrix: Soil Gas

Date Collected: 5/3/16 11:08

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.9	U	ug/m3	0.39 1.9	5/11/16 11/24	5/25/16 6/20	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 6/20	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/25/16 6/20	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/25/16 6/20	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.23 1.7	5/11/16 11/24	5/25/16 6/20	EPA TO-15
71-43-2	Benzene	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/25/16 6/20	EPA TO-15
67-66-3	Chloroform	1.4	J, Q-2, QL-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/25/16 6/20	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 6/20	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 6/20	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	1.5 1.5	5/11/16 11/24	5/25/16 6/20	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/25/16 6/20	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.0	U	ug/m3	0.30 3.0	5/11/16 11/24	5/25/16 6/20	EPA TO-15
108-88-3	Toluene	0.63	J, Q-2, QL-2	ug/m3	0.17 1.7	5/11/16 11/24	5/25/16 6/20	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/25/16 6/20	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/25/16 6/20	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/25/16 6/20	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

153 Tallahoma Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 153 Tallahoma Circle, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 153 Tallahoma Circle, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 153 Tallahoma Circle		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	0.98 (estimated)
1,2-Dichloroethane	0.11	1.9 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal line extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

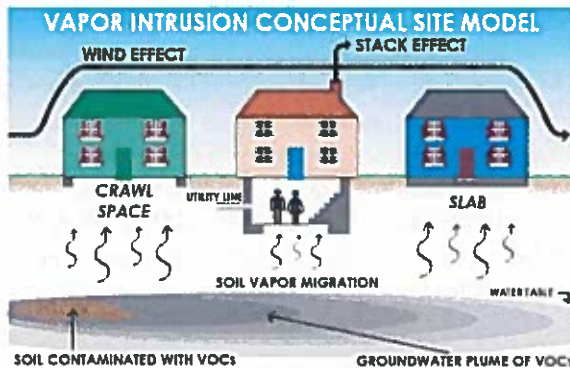
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1201A0516

Lab ID: E162001-46

Station ID: GM120

Matrix: Indoor Air

Date Collected: 5/3/16 17:40

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.2	J, Q-2	ug/m3	0.44 4.4	5/11/16 11/21	5/20/16 1/15	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.7	U	ug/m3	0.27 2.7	5/11/16 11/21	5/20/16 1/15	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.8	U	ug/m3	0.18 1.8	5/11/16 11/21	5/20/16 1/15	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.38	J, Q-2	ug/m3	0.25 2.5	5/11/16 11/21	5/20/16 1/15	EPA TO-15
107-06-2	1,2-Dichloroethane	1.9	J, Q-2	ug/m3	0.25 2.0	5/11/16 11/21	5/20/16 1/15	EPA TO-15
71-43-2	Benzene	0.98	J, Q-2	ug/m3	0.16 1.6	5/11/16 11/21	5/20/16 1/15	EPA TO-15
67-66-3	Chloroform	0.40	J, Q-2	ug/m3	0.24 2.4	5/11/16 11/21	5/20/16 1/15	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/21	5/20/16 1/15	EPA TO-15
100-41-4	Ethyl Benzene	0.46	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/21	5/20/16 1/15	EPA TO-15
75-09-2	Methylene Chloride	1.6	U	ug/m3	1.6 1.6	5/11/16 11/21	5/20/16 1/15	EPA TO-15
95-47-6	o-Xylene	0.49	J, Q-2	ug/m3	0.22 2.2	5/11/16 11/21	5/20/16 1/15	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.3	U	ug/m3	0.33 3.3	5/11/16 11/21	5/20/16 1/15	EPA TO-15
108-88-3	Toluene	7.6		ug/m3	0.19 1.9	5/11/16 11/21	5/20/16 1/15	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/21	5/20/16 1/15	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.6	U	ug/m3	0.26 2.6	5/11/16 11/21	5/20/16 1/15	EPA TO-15
75-01-4	Vinyl chloride	1.2	U	ug/m3	0.12 1.2	5/11/16 11/21	5/20/16 1/15	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM120SS0516

Lab ID: E162001-47

Station ID: GM120

Matrix: Soil Gas

Date Collected: 5/3/16 17:05

<i>GAS</i> Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	4.0	U	ug/m3	0.40 4.0	5/11/16 11:24	5/26/16 2:32	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11:24	5/26/16 2:32	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11:24	5/26/16 2:32	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	3.6		ug/m3	0.22 2.2	5/11/16 11:24	5/26/16 2:32	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.23 1.8	5/11/16 11:24	5/26/16 2:32	EPA TO-15
71-43-2	Benzene	0.51	J, Q-2, QR-2	ug/m3	0.14 1.4	5/11/16 11:24	5/26/16 2:32	EPA TO-15
67-66-3	Chloroform	12		ug/m3	0.22 2.2	5/11/16 11:24	5/26/16 2:32	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11:24	5/26/16 2:32	EPA TO-15
100-11-4	Ethyl Benzene	2.0	U	ug/m3	0.20 2.0	5/11/16 11:24	5/26/16 2:32	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	1.5 1.5	5/11/16 11:24	5/26/16 2:32	EPA TO-15
95-47-6	o-Xylene	0.30	J, Q-2	ug/m3	0.30 2.0	5/11/16 11:24	5/26/16 2:32	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	0.35	J, Q-2	ug/m3	0.30 3.0	5/11/16 11:24	5/26/16 2:32	EPA TO-15
108-88-3	Toluene	14		ug/m3	0.17 1.7	5/11/16 11:24	5/26/16 2:32	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.9	U	ug/m3	0.19 1.9	5/11/16 11:24	5/26/16 2:32	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11:24	5/26/16 2:32	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11:24	5/26/16 2:32	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

105 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 105 Lyon Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 105 Lyon Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 4, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene and 1,2-dichloroethane were detected in the indoor air** at levels that exceed the EPA's indoor air regional screening levels. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** The two chemicals that were detected in your indoor air were not found in the air beneath your foundation slab, and are therefore, unlikely to be originating from underground sources. It is important to know that these contaminants can be present in and around homes from common household products and gasoline.

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride, which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA’s screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or “ambient”) air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA’s regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 105 Lyon Drive		
Sample date: 5/4/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	0.77 (estimated)
1,2-Dichloroethane	0.11	0.86 (estimated)
Notes:		
Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter.		
Bold – Indicates value is above the EPA regional screening level		
The indoor air was collected over a 24-hour period via summa canister.		
Estimated – This analyte has a data qualifier referred to as a “J” flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family’s health, if needed, could be taken without delay. The results from the mobile laboratory show trace levels of TCE in the home. The levels detected by the mobile laboratory are estimated to be from 0.21 $\mu\text{g}/\text{m}^3$ to 0.33 $\mu\text{g}/\text{m}^3$ and are all below EPA’s screening levels. The results represent air collected

for one minute in each room. The TCE concentrations are estimated because the levels are lower than the instrument can quantify with high confidence. No TCE was detected in the 24-hour indoor air sample, as discussed above. TCE concentrations in both the mobile laboratory sample and the conventional 24-hour indoor air sample were below EPA's screening level. EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", followed by a long horizontal line extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

Enclosure 1

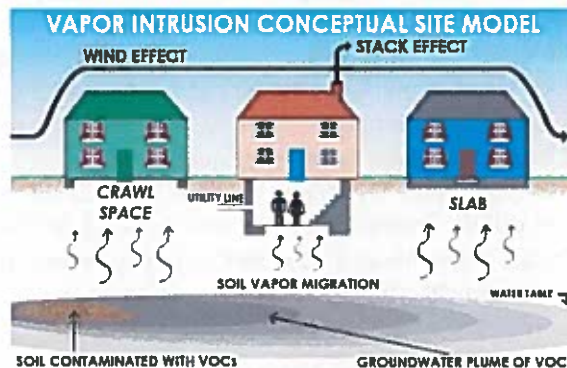
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2
Summary Table of Screening Levels for Chemicals Detected and

Enclosure #2

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1221A0516

Lab ID: E162001-50

Station ID: GM122

Matrix: Indoor Air

Date Collected: 5/4/16 12:37

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	0.55	J, Q-2	ug/m3	0.44 4.4	5/11/16 11:21	5/20/16 2:59	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.7	U	ug/m3	0.27 2.7	5/11/16 11:21	5/20/16 2:59	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.8	U	ug/m3	0.18 1.8	5/11/16 11:21	5/20/16 2:59	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.43	J, Q-2	ug/m3	0.25 2.5	5/11/16 11:21	5/20/16 2:59	EPA TO-15
107-06-2	1,2-Dichloroethane	0.86	J, Q-2	ug/m3	0.25 2.0	5/11/16 11:21	5/20/16 2:59	EPA TO-15
71-43-2	Benzene	0.77	J, Q-2	ug/m3	0.16 1.6	5/11/16 11:21	5/20/16 2:59	EPA TO-15
67-66-3	Chloroform	0.25	J, Q-2	ug/m3	0.24 2.4	5/11/16 11:21	5/20/16 2:59	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	0.23	J, Q-2	ug/m3	0.20 2.0	5/11/16 11:21	5/20/16 2:59	EPA TO-15
100-41-4	Ethyl Benzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:21	5/20/16 2:59	EPA TO-15
75-09-2	Methylene Chloride	1.7	U	ug/m3	1.7 1.7	5/11/16 11:21	5/20/16 2:59	EPA TO-15
95-47-6	o-Xylene	0.26	J, Q-2	ug/m3	0.22 2.2	5/11/16 11:21	5/20/16 2:59	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.3	U	ug/m3	0.33 3.3	5/11/16 11:21	5/20/16 2:59	EPA TO-15
108-88-3	Toluene	1.8	J, Q-2	ug/m3	0.19 1.9	5/11/16 11:21	5/20/16 2:59	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.1	U	ug/m3	0.21 2.1	5/11/16 11:21	5/20/16 2:59	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.7	U	ug/m3	0.27 2.7	5/11/16 11:21	5/20/16 2:59	EPA TO-15
75-01-4	Vinyl chloride	1.3	U	ug/m3	0.13 1.3	5/11/16 11:21	5/20/16 2:59	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM122SS0516

Lab ID: E162001-51

Station ID: GM122

Matrix: Soil Gas

Date Collected: 5/4/16 11:54

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	4.0	U	ug/m3	0.40 4.0	5/11/16 11/24	5/26/16 5/03	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.5	U	ug/m3	0.25 2.5	5/11/16 11/24	5/26/16 5/03	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/26/16 5/03	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/26/16 5/03	EPA TO-15
107-06-2	1,2-Dichloroethane	1.8	U	ug/m3	0.23 1.8	5/11/16 11/24	5/26/16 5/03	EPA TO-15
71-43-2	Benzene	0.14	J, Q-2	ug/m3	0.14 1.4	5/11/16 11/24	5/26/16 5/03	EPA TO-15
67-66-3	Chloroform	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/26/16 5/03	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/26/16 5/03	EPA TO-15
100-41-4	Ethyl Benzene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/24	5/26/16 5/03	EPA TO-15
75-09-2	Methylene Chloride	1.5	U	ug/m3	0.17 1.5	5/11/16 11/24	5/26/16 5/03	EPA TO-15
95-47-6	o-Xylene	2.0	U	ug/m3	0.20 2.0	5/11/16 11/24	5/26/16 5/03	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	1.0	J, Q-2	ug/m3	0.31 3.1	5/11/16 11/24	5/26/16 5/03	EPA TO-15
108-88-3	Toluene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/26/16 5/03	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 5/03	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/26/16 5/03	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/26/16 5/03	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 25, 2016

(b) (6)

151 Tallohomma Circle
Grenada, Mississippi 38901

SUBJECT: Results of May 2016 Air Monitoring at 151 Tallohomma Drive, Grenada, MS

Dear (b) (6)

Thank you for allowing the U.S. Environmental Protection Agency (EPA) to monitor the air inside your home located at 151 Tallahoma Drive, Grenada, MS. The sampling was necessary to evaluate whether contamination, primarily the solvent trichloroethene (TCE), may be entering your home in the form of a gas (or vapor) from contaminated groundwater beneath your home. This process is called "vapor intrusion." The sampling activities were part of a broader EPA investigation of potential vapor intrusion impacts in Eastern Heights from the Facility. A document entitled, "What You Should Know about Vapor Intrusion" is enclosed for your reference.

Multiple technologies were used to conduct the indoor air study in and around your home. The EPA used its Trace Atmospheric Gas Analyzer (TAGA) bus, which is a mobile air monitoring laboratory, to screen the air inside of your home and conduct real-time analyses to assist the sampling team with making field decisions. At the same time, EPA also used conventional sampling methods via summa canister to collect a 24-hour indoor air sample and a 30-minute air sample from beneath the foundation slab (called "sub-slab air"). EPA considers the data from the 24-hour indoor air sample to best represent daily exposure in a residential home.

The EPA collected an indoor air sample and a sub-slab air sample from your home on May 3, 2016, using summa canisters. The EPA has reviewed the results and **determined that, at this time, there is no immediate threat to your health.** More detail is provided below.

Data Summary

Indoor Air: TCE was not detected in the indoor air sample. Although TCE was not detected in indoor air, **benzene was detected in the indoor air** at a level that exceeds the EPA's indoor air regional screening level. **Regional screening levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.** Benzene was detected in your indoor air, but was not found in the air beneath your foundation slab, and is therefore, unlikely to be originating from underground sources. It is important to know that benzene can be present in and around homes from common household products and gasoline.

Benzene is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from forest fires, crude oil, gasoline, and cigarette smoke.

Ventilating your house (by opening windows, and running attic fans and air conditioners) and storing products mentioned above outside (in outdoor sheds or utility rooms) will reduce the levels of these compounds in your home.

Sub-Slab Air: No contaminants were found above EPA's screening levels in the air beneath the foundation slab of your home (referred to as sub-slab air or soil gas). Based on the results from the air beneath your home, the EPA can conclude that no chemicals are entering your home from a below-ground source, such as groundwater.

Outdoor Air: Outdoor (or "ambient") air samples were collected outside of your home and in several other locations within the Eastern Heights neighborhood. Low levels of benzene were found in the outdoor air samples, most likely due to vehicle exhaust.

The following table is a summary of the results from the air inside your home which includes TCE and other chemicals detected above the EPA's regional screening levels. The complete laboratory data sheets are provided as an enclosure and are accompanied by a table containing the relevant screening levels for the chemicals detected.

Results		
Sample location: 151 Tallohome Drive		
Sample date: 5/3/2016		
Chemical Name	EPA Indoor Air Regional Screening Levels	Indoor Air Sample from your home
Trichloroethene	0.48	Not Detected
Benzene	0.36	1.1 (estimated)
Notes: Concentrations are in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meter. Bold – Indicates value is above the EPA regional screening level The indoor air was collected over a 24-hour period via summa canister. Estimated – This analyte has a data qualifier referred to as a "J" flag. The identification of the analyte is acceptable; the reported value is an estimate.		

In addition, the EPA used the TAGA bus to screen the air in each room in your home and the air beneath the foundation slab. The purpose of using the mobile laboratory was to obtain immediate information about air quality so that appropriate actions to protect your family's health, if needed, could be taken without delay. The results from the mobile laboratory, including indoor air, sub-slab air and outdoor air, are consistent with the results described above.

The EPA staff will contact you to discuss this letter and/or any questions you may have about the results and the sampling. EPA plans to conduct an additional round of vapor intrusion sampling (both indoor air/sub-slab air and outdoor). A second round of seasonal sampling will be done to supplement the May results and draw conclusions regarding vapor intrusion. The EPA will work with your attorney to contact you to schedule a time to collect the samples. If you have any

questions or would like additional information, please feel free to contact Brian Bastek, RCRA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, RCRA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael A. Norman", with a long horizontal flourish extending to the right.

Michael A. Norman, Chief
RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division

cc: Willie McKercher, MDEQ
Reid Stanford, Esq.

Enclosures (3)

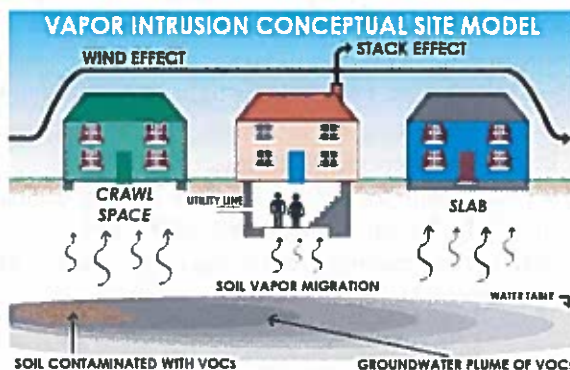
Enclosure 1
What You Should Know about Vapor Intrusion

What You Should Know About Vapor Intrusion

EPA has developed this fact sheet to answer some of the most commonly asked questions about an important health issue called vapor intrusion. Vapors and gases from contaminated groundwater and soil have the potential to seep into indoor spaces and cause health problems.

What is vapor intrusion?

When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors that can get inside buildings. Common products that can cause vapor intrusion are gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. Some vapors such as those associated with petroleum products have a gasoline odor, others are odor-free.



Can vapors in my home come from household sources?

Common household products can be a source of indoor air problems. Vapors and gases can come from: paints; paint strippers or thinners; moth balls; new carpeting and furniture; stored fuel; air fresheners; cleaning products; dry cleaned clothing and even cigarette smoke.

What are the health concerns related to vapor intrusion?

When vapor intrusion does occur, the health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of exposed individuals. Some people may experience eye and respiratory irritation, headaches and/or nausea. These symptoms are temporary and should go away when the vapors are addressed. Low-level chemical exposures over many years may raise the lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

Samples of gas in the soil or groundwater are first collected near a contaminated site. If no contamination is found near a site, then vapor intrusion should not be a problem. If contamination is found, depending on the type, the search may be widened to include samples closer to or on individual properties. The next step is to take vapor samples from the soil under the home's foundation; these are called slab, or sub-slab samples. EPA does not generally recommend indoor air sampling before slab or sub-slab sampling, because indoor air quality varies widely day to day. Also, household products may interfere with sampling results.

What happens if a problem is found?

The most common solution is to install systems often used to reduce naturally occurring radon that seeps into homes in some geographic areas. These systems, called radon mitigation systems, remove soil vapors from below basements or foundations before they enter homes. Vapors are vented outside of the homes where they become dispersed and harmless. These systems use minimal electricity and do not affect heating and cooling efficiency. They also prevent radon from entering homes – an added health benefit especially in radon prone areas. Once the source of the vapors is eliminated, the systems should no longer be needed.



Vapor Intrusion: Tightly seal common household products after use and store them in an area that is well ventilated to avoid the release of vapors

What can I do to improve indoor air quality?

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate tightly-sealed containers.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores or you can call the Radon Hotline at 800-458-1158 in New York State, or 800-648-0394 in New Jersey.
- Install carbon monoxide detectors in your home. They are available at hardware and home improvement stores.



Sub-slab mitigation system: This system draws radon and other vapors out of the soil and vents them outside

For more information:

- For health related questions regarding vapor intrusion, contact your local health department or the federal Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their Web site at www.atdsr.cdc.gov
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's Web site at: www.epa.gov/vaporintrusion
- For more information on indoor air quality, visit EPA's Web site at: www.epa.gov/learn-issues/learn-about-air

Enclosure 2

Summary Table of Screening Levels for Chemicals Detected and

Summary Table of Screening Levels for Chemicals Detected in Indoor Air and Sub-slab air samples

Residential Air Screening Table for the Grenada Manufacturing Facility		
Contaminants	RSL(ug/m³)*	Sub-slab(ug/m³)*
Benzene	0.36	12
Chloroform**	10	330
1,2-Dichloroethane	0.11	3.6
1,2-Dichloroethene***	7.3	243
Ethylbenzene	1.1	37
Toluene	5200	170,000
Tetrachloroethene	11	360
Trichloroethene****	0.48	16
Xylene	100	3500
NOTES:		
RSL - EPA's Regional Screening Level for residential air		
Sub-slab - RSLs adjusted for attenuation thru a concrete slab.		
*Screening levels are based on HI=1 or 1x10e-6, unless otherwise noted.		
**Based on HI=0.1 because of chloroform being a threshold carcinogen.		
***Based on non-cancer toxicity of 1,2-DCA.		
****Also known as trichloroethylene		
All Screening Levels are reported in micrograms per cubic meter, ug/m ³		

Enclosure 3
Laboratory Data Sheets



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM1211A0516

Lab ID: E162001-48

Station ID: GMI21

Matrix: Indoor Air

Date Collected: 5/3/16 18:38

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	1.2	J, Q-2	ug/m3	0.49 4.9	5/11/16 11:21	5/20/16 2:07	EPA TO-15
79-00-5	1,1,2-Trichloroethane	3.0	U	ug/m3	0.30 3.0	5/11/16 11:21	5/20/16 2:07	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	0.33	J, Q-2	ug/m3	0.21 2.1	5/11/16 11:21	5/20/16 2:07	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	0.75	J, Q-2	ug/m3	0.28 2.8	5/11/16 11:21	5/20/16 2:07	EPA TO-15
107-06-2	1,2-Dichloroethane	2.2	U	ug/m3	0.28 2.2	5/11/16 11:21	5/20/16 2:07	EPA TO-15
71-43-2	Benzene	1.1	J, Q-2	ug/m3	0.18 1.8	5/11/16 11:21	5/20/16 2:07	EPA TO-15
67-66-3	Chloroform	0.70	J, Q-2	ug/m3	0.26 2.6	5/11/16 11:21	5/20/16 2:07	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	2.2	U	ug/m3	0.22 2.2	5/11/16 11:21	5/20/16 2:07	EPA TO-15
100-41-4	Ethyl Benzene	0.46	J, Q-2	ug/m3	0.24 2.4	5/11/16 11:21	5/20/16 2:07	EPA TO-15
75-09-2	Methylene Chloride	1.8	U	ug/m3	1.8 1.8	5/11/16 11:21	5/20/16 2:07	EPA TO-15
95-47-6	o-Xylene	0.56	J, Q-2	ug/m3	0.24 2.4	5/11/16 11:21	5/20/16 2:07	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	3.7	U	ug/m3	0.37 3.7	5/11/16 11:21	5/20/16 2:07	EPA TO-15
108-88-3	Toluene	7.5		ug/m3	0.21 2.1	5/11/16 11:21	5/20/16 2:07	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	2.3	U	ug/m3	0.23 2.3	5/11/16 11:21	5/20/16 2:07	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	3.0	U	ug/m3	0.30 3.0	5/11/16 11:21	5/20/16 2:07	EPA TO-15
75-01-4	Vinyl chloride	1.4	U	ug/m3	0.14 1.4	5/11/16 11:21	5/20/16 2:07	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 16-0152

Project: 16-0323, Grenada Manufacturing - Reported by Sallie Hale

Volatile Organics

Project: 16-0323, Grenada Manufacturing

Sample ID: GM121SS0516

Lab ID: E162001-49

Station ID: GM121

Matrix: Soil Gas

Date Collected: 5/3/16 18:02

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
R4-7156	(m- and/or p-)Xylene	3.8	U	ug/m3	0.38 3.8	5/11/16 11/24	5/26/16 4/13	EPA TO-15
79-00-5	1,1,2-Trichloroethane	2.4	U	ug/m3	0.24 2.4	5/11/16 11/24	5/26/16 4/13	EPA TO-15
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	1.6	U	ug/m3	0.16 1.6	5/11/16 11/24	5/26/16 4/13	EPA TO-15
95-63-6	1,2,4-Trimethylbenzene	2.2	U	ug/m3	0.22 2.2	5/11/16 11/24	5/26/16 4/13	EPA TO-15
107-06-2	1,2-Dichloroethane	1.7	U	ug/m3	0.22 1.7	5/11/16 11/24	5/26/16 4/13	EPA TO-15
71-43-2	Benzene	0.65	J, Q-2, QR-2	ug/m3	0.14 1.4	5/11/16 11/24	5/26/16 4/13	EPA TO-15
67-66-3	Chloroform	0.99	J, Q-2, QR-2	ug/m3	0.21 2.1	5/11/16 11/24	5/26/16 4/13	EPA TO-15
156-59-2	cis-1,2-Dichloroethene	1.7	U	ug/m3	0.17 1.7	5/11/16 11/24	5/26/16 4/13	EPA TO-15
100-41-4	Ethyl Benzene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 4/13	EPA TO-15
75-09-2	Methylene Chloride	1.4	U	ug/m3	1.4 1.4	5/11/16 11/24	5/26/16 4/13	EPA TO-15
95-47-6	o-Xylene	1.9	U	ug/m3	0.19 1.9	5/11/16 11/24	5/26/16 4/13	EPA TO-15
127-18-4	Tetrachloroethene (Tetrachloroethylene)	2.9	U	ug/m3	0.29 2.9	5/11/16 11/24	5/26/16 4/13	EPA TO-15
108-88-3	Toluene	0.47	J, Q-2	ug/m3	0.16 1.6	5/11/16 11/24	5/26/16 4/13	EPA TO-15
156-60-5	trans-1,2-Dichloroethene	1.8	U	ug/m3	0.18 1.8	5/11/16 11/24	5/26/16 4/13	EPA TO-15
79-01-6	Trichloroethene (Trichloroethylene)	2.3	U	ug/m3	0.23 2.3	5/11/16 11/24	5/26/16 4/13	EPA TO-15
75-01-4	Vinyl chloride	1.1	U	ug/m3	0.11 1.1	5/11/16 11/24	5/26/16 4/13	EPA TO-15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303

August 26, 2016

(b) (6)

166 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Sampling Results for Eastern Heights Neighborhood Playground, Tallahoma Drive, Grenada, Mississippi

Dear (b) (6)

On May 3, 2016, the United States Environmental Protection Agency (EPA) conducted environmental sampling on the playground located on Tallahoma Drive in the Eastern Heights neighborhood. The purpose of the sampling was to determine whether contamination was present in the soil or groundwater that may be related to the Grenada Manufacturing, LLC, facility, and to evaluate if any further response actions are necessary to protect public health and the environment. As you are probably aware, the Grenada Manufacturing facility is located a quarter mile south of the playground.

Several investigative samples were collected on the property. Two surface soil samples were collected to evaluate the potential risk to people using the playground. Each of the surface soil samples consisted of five subsamples taken within the play area and combined into one sample. The surface soil samples represent the soil that people using the playground may contact. In addition, one soil boring was drilled on the property from the ground surface to 18 feet below ground surface. An 18-foot soil core was collected and inspected. Two investigative samples were collected from the soil core: one subsurface soil sample was collected 4-6 feet below ground surface and one subsurface soil sample was collected 10-12 feet below ground surface. In addition, one soil gas sample was collected 12 feet below the ground surface, and one groundwater sample was collected from 13-18 feet below the ground surface. Though people using the playground are not expected to contact the groundwater or below-ground soils, the EPA collected these samples to gather more information about environmental conditions.

The soil, subsurface soil and groundwater samples collected were analyzed for metals and volatile organic compounds. The soil gas sample was analyzed for a targeted list of volatile organic compounds. The EPA has evaluated the laboratory results and has determined that all results for the playground are within the EPA's acceptable risk range. The results are presented below.

Surface Soil

One contaminant, arsenic, was detected in surface soil above the Regional Screening Level for residential soil. (Regional Screening Levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.) Arsenic was detected from 2.6 milligrams per kilogram (mg/kg) to 3.7 mg/kg. The amount of arsenic in surface soils is within the EPA's acceptable risk range (assuming daily, chronic exposure) and does not indicate a need for further evaluation or response. Also,

the amount of arsenic detected on the property is low and is consistent with naturally occurring levels of arsenic in soil. (Arsenic occurs naturally in soil and in many kinds of rock.)

Subsurface Soil

Arsenic was detected in the subsurface soil samples at 3.5 mg/kg and 9.2 mg/kg. These soils were collected at 4-6 feet below the ground surface and 10-12 feet below the ground surface. The levels of arsenic detected in the subsurface soil samples is within the EPA's acceptable risk range for residential soils and are consistent with naturally occurring levels in soil. The EPA used the surface soil screening values to evaluate the subsurface soil, even though regular exposure to subsurface soil is not expected. Using the conservative screening values to evaluate the subsurface soil results, the EPA determined that there is no need for further evaluation or response. Additionally, the soil core was inspected by field personnel; there was no evidence of buried material.

Soil Gas

There were no contaminants detected that exceed the Regional Screening Levels for vapor intrusion.

Groundwater

Groundwater is not used for drinking, and people using the playground are not expected to contact groundwater. However, the EPA collected a groundwater sample 13-18 feet below the ground surface. Arsenic and lead were detected above the federal drinking water standards. Arsenic was detected at 25 micrograms per liter (ug/l) and lead was detected at 18 ug/l, in an unfiltered sample. While these levels are above drinking water standards, they do not pose a threat to playground users.

Laboratory data sheets, which list all of the chemicals analyzed for during the sampling, are available upon request. For your information, the EPA's Expanded Site Inspection (ESI) Report, which will include these results, is currently being finalized and will be posted at EPA's website.

For more information about the Grenada Manufacturing site, please see www.epa.gov/grenadacleanup. If you have any questions, or would like additional information, please contact Brian Bastek, EPA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, EPA Community Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov. Alternatively, please contact me (contact information below) if you have any questions about the sampling results.

Sincerely,

Cathy Amoroso
Remedial Project Manager
Restoration & Site Evaluation Section
Telephone: 404-562-8637
E-mail: amoroso.cathy@epa.gov

cc: Willie McKercher, MDEQ
Reid Sanford, Esq.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303

August 26, 2016

(b) (6)

178 Lyon Drive
Grenada, Mississippi 38901

SUBJECT: Sampling Results for Property at 178 Lyon Drive, Grenada, MS

Dear (b) (6)

On May 3, 2016, the United States Environmental Protection Agency (EPA) conducted soil sampling on your property at 178 Lyon Drive. The purpose of the sampling was to determine whether contamination is present in the subsurface soil that may be related to the Grenada Manufacturing, LLC, facility, and to evaluate if any further response actions are necessary to protect public health and the environment.

On May 3, 2016, one soil boring was drilled on your property from the ground surface to 16 feet below the ground surface. A 16-foot soil core was collected. Three investigative samples were collected: one subsurface soil sample was collected 8-10 feet below the ground surface, one subsurface soil sample was collected 11-13 feet below the ground surface, and one soil gas sample was collected. The soil samples were analyzed for metals and volatile organic compounds. The soil gas sample was analyzed for a targeted list of volatile organic compounds.

There were no contaminants detected that exceeded applicable screening levels for your property. Specifically, for the two soil samples, there were no contaminants detected that exceed the Regional Screening Levels for residential soil. For the soil gas sample, there were no contaminants detected that exceed the regional vapor intrusion screening levels for soil gas. Regional Screening Levels are values used by the EPA to determine if a contaminant should be considered for further evaluation.

In addition, the soil core was inspected by field personnel. Based on visual observations and field screening of the soil core with a photoionization detector, no non-native material or buried waste was evident.

Laboratory data sheets, which list all of the chemicals analyzed for during the sampling, are available upon request. For your information, the EPA's Expanded Site Inspection (ESI) Report, which will include these results, is currently being finalized and will be posted at EPA's website.

For more information about the Grenada Manufacturing site, please see www.epa.gov/GrenadaCleanup. If you have any questions, or would like additional information, please contact Brian Bastek, EPA Project Manager at (404) 562-8511 or bastek.brian@epa.gov, or Brian Holtzclaw, EPA Community

Engagement Coordinator at (404) 821-0697 or holtzclaw.brian@epa.gov. Alternatively, please contact me (contact information below) if you have any questions about the sampling results.

Sincerely,

Cathy Amoroso
Remedial Project Manager
Restoration & Site Evaluation Section
Telephone: 404-562-8637
E-mail: amoroso.cathy@epa.gov

cc: Willie McKercher, MDEQ
Reid Sanford, Esq.